

What is claimed is:

1. An isolated polynucleotide comprising a polynucleotide selected from the group consisting of:
  - 5 (a) a polynucleotide encoding the polypeptide consisting of the amino acid sequence of SEQ ID NO:2;
  - (b) a polynucleotide consisting of SEQ ID NO:1;
  - (c) a polynucleotide having at least about 90% sequence identity to the polynucleotide of (a) or (b).
- 10 2. The isolated polynucleotide of claim 1, which comprises a polynucleotide having at least about 90% sequence identity to SEQ ID NO: 1.
- 15 3. The isolated polynucleotide of claim 1, which comprises a polynucleotide having at least about 90% sequence identity to a polynucleotide encoding the polypeptide as set forth in SEQ ID NO:2.
4. The isolated polynucleotide of claim 1, which comprises a polynucleotide having at least about 95% sequence identity to a polynucleotide encoding SEQ ID NO:2.
- 20 5. The isolated polynucleotide of claim 1, which comprises a polynucleotide encoding SEQ ID NO:2.
6. The polynucleotide of claim 1, wherein said polynucleotide comprises SEQ ID NO:1.
- 25 7. The polynucleotide of claim 1, wherein said polynucleotide sequence encodes the polypeptide of SEQ ID NO:2.
- 30 8. The polynucleotide of claim 1, which is a DNA or RNA.
9. A fragment of the polynucleotide of SEQ ID NO:1.

*Part B1* 10. An expression vector comprising the isolated polynucleotide of claim 1.

11. A host cell comprising the expression vector of claim 10.

5

12. The host cell of claim 10, which is a mammalian cell.

13. The host cell of claim 10, wherein the mammalian cell is a CHO cell.

10 14. The host cell of claim 10, which is a eukaryotic cell.

15. An antibody that selectively binds a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or a fragment thereof.

15 16. A process for producing the polypeptide comprising SEQ ID NO: 2 comprising: culturing a host cell of claim 11 under conditions sufficient for the production of said polypeptide and recovering the polypeptide from the culture.

20 17. A process for producing cells capable of expressing a polypeptide comprising genetically transfecting or transforming cells with the vector of claim 10.

*Part B2* 18. A process for producing a human EDG8 polypeptide or a fragment thereof comprising: culturing a host cell of claim 11 under conditions sufficient for the production of said polypeptide and recovering the polypeptide from the culture.

25

19. A polynucleotide which is a complement of a polynucleotide of claim 1.

20. A process for diagnosing a disease or a susceptibility to a disease related to expression or activity of human EDG8 polypeptide comprising:

30 determining the presence or absence of mutation in the nucleotide sequence encoding said human EDG8 polypeptide in the genome of said subject; and/or

analyzing for the presence or amount of the human EDG8 polypeptide expression in a sample derived from said subject.

21. A method for identifying compounds which bind to human EDG8 polypeptide  
5 comprising:  
a) contacting a cell as claimed in claim 18 or a part thereof with a candidate compound; and  
b) assessing the ability of said candidate compound to bind to said cells.

10 22. The method as claimed in claim 21 which further includes determining whether the candidate compound effects a signal generated by activation of the human EDG8 polypeptide at the surface of the cell, wherein a candidate compound which effects production of said signal is identified as an agonist.

15 23. The method as claimed in claim 21 which further includes determining whether the candidate compound effects a signal generated by activation of the human EDG8 polypeptide at the surface of the cell, wherein a candidate compound which effects production of said signal is identified as an antagonist.

20 24. An agonist identified by the method of claim 22.

25. An antagonist identified by the method of claim 23.

26. The method of claim 21 which further includes contacting said cell with a known  
25 agonist for said human EDG8 polypeptide; and determining whether the signal generated by said agonist is diminished in the presence of said candidate compound, wherein a candidate compound which effects a diminution in said signal is identified as an antagonist for said human EDG8 polypeptide.

30 27. A method as claimed in claim 26, wherein the known agonist is S1P, LPA and/or dHS1P.

28. An antagonist identified by the method of claim 26.

29. A method of preparing a pharmaceutical composition comprising:

5       a) identifying a compound which is an agonist or an antagonist of human EDG8,

      b) preparing the compound, and

      c) optionally mixing the compound with suitable additives.

30. A pharmaceutical composition prepared by a method of claim 29.

10

31. A pharmaceutical composition comprising human EDG8 polypeptide or a fragment thereof wherein said fragment has human EDG8 biological activity.

15       32. A pharmaceutical composition containing a polynucleotide encoding for human EDG8 or a fragment thereof encoding for a peptide with human EDG8 biological activity.

*But B3*